



## MONTHLY AIR QUALITY REPORT FOR SEPTEMBER 2013

### AOI COLOR SCALE

<b>GOOD</b>  0-50	<b>MODERATE</b>  51-100	<b>UNHEALTHY FOR SENSITIVE GROUPS</b>  101-150	<b>UNHEALTHY</b>  151-200
	<b>VERY UNHEALTHY</b>  201-300	<b>HAZARDOUS</b>  301-500	

### Calendar of maximum AQI values & their corresponding color for September 2013\*

\*Preliminary data

#### SAMPLE POLLUTANT REPORTING BOX

<b>1</b> (day of month)	<b>O3</b>	<b>CO</b>
	<b>PM10</b>	<b>PM2.5</b>

SUN			MON			TUES			WED			THU			FRI			SAT		
1	44	05	2	47	05	3	122	07	4	97	06	5	54	07	6	64	05	7	61	05
	18	18		55	25		39	35		51	32		60	33		80	48		28	26
8	39	05	9	41	06	10	48	05	11	93	07	12	90	07	13	67	07	14	51	06
	20	19		19	18		13	18		31	23		31	23		34	22		22	19
15	61	08	16	51	07	17	45	06	18	58	06	19	64	07	20	67	08	21	47	06
	23	23		42	37		44	22		52	19		52	39		48	67		31	43
22	47	03	23	71	07	24	67	10	25	58	09	26	46	03	27	54	05	28	47	08
	52	55		50	21		59	29		50	26		74	20		50	19		37	37
29	58	11	30	67	10															
	42	29		53	27															

### Calendar of High Pollution Advisories and Health Watches issued during September 2013

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

#### LEGEND

##### HIGH POLLUTION ADVISORIES

**A** = PM-10 High Pollution Advisory  
**B** = PM-2.5 High Pollution Advisory  
**C** = Ozone High Pollution Advisory

##### HEALTH WATCHES

**D** = PM-10 Health Watch  
**E** = PM-2.5 Health Watch  
**F** = Ozone Health Watch

### Calendar of Meteorological Conditions observed in Metro Phoenix during September 2013

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

#### LEGEND

##### ELECTROMETEORS

**A** = Thunderstorm

##### HYDROMETEORS

**B** = Rain/Drizzle/Hail  
**C** = Fog

##### LITHOMETEORS

**D** = Blowing Dust  
**E** = Haze (vsby <10SM)  
**F** = Smoke

---

**Non-Ozone Exceedance days during SEP 2013-**

Total=	0	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
--------	---	-------------	----------------	------------------	---------------

---

**Non-Ozone Health Watches issued during SEP 2013-**

Total=	1	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
		9/26	74	PM-10	West Chandler

---

**Non-Ozone High Pollution Advisories issued during SEP 2013-**

Total=	0	<u>Date</u>	<u>Max AQI</u>	<u>Pollutant</u>	<u>Site/s</u>
--------	---	-------------	----------------	------------------	---------------

---

<b><u>Concentration Recap:</u></b>	Days in the <b>Good</b> category:	7
	Days in the <b>Moderate</b> category:	22
	Days in the <b>Unhealthy for Sensitive Groups</b> category:	1
	Days in the <b>Unhealthy</b> category:	0
	Days in the <b>Very Unhealthy</b> category:	0
	Days in the <b>Hazardous</b> category:	0
	Total Forecast Days:	30

---

Narrative: From a particulate pollution point of view, September 2013 was a pleasant experience for Valley residents with no exceedances of the health standard. However, there were still several episodes of blowing dust – early in the month due to short periods of relatively strong outflow winds from thunderstorm activity and later in the month due to longer periods of strong gradient winds associated with upper level troughs and surface cold fronts embedded in the mid-latitude storm track. The most significant of these occurred on the 26th when wind gusts of up to 41 mph were recorded in the metro area between 1:00 and 8:00 p.m. These winds managed to generate a blowing dust episode that lowered local visibilities to as low as five miles. The National Weather Service in Phoenix issued several special statements as a result and a copy of one of them is shown below. Also seen below in [Figure 1](#) is a photo from the Phoenix metro VISNET camera array showing some of the airborne dust seen during the early afternoon. -Reith

### Blowing Dust Advisory

URGENT - WEATHER MESSAGE  
NATIONAL WEATHER SERVICE PHOENIX AZ  
1241 PM MST THU SEP 26 2013

AZZ028-270200-  
/O.NEW.KPSR.DU.Y.0038.130926T1941Z-130927T0200Z/  
NORTHWEST AND NORTH CENTRAL PINAL COUNTY-  
INCLUDING THE CITIES OF...APACHE JUNCTION...CASA GRANDE...  
FLORENCE  
1241 PM MST THU SEP 26 2013

...BLOWING DUST ADVISORY IN EFFECT UNTIL 7 PM MST THIS EVENING...

THE NATIONAL WEATHER SERVICE IN PHOENIX HAS ISSUED A BLOWING DUST ADVISORY...WHICH IS IN EFFECT UNTIL 7 PM MST THIS EVENING.

- \* AFFECTED AREA...NORTHWEST PINAL COUNTY INCLUDING CITIES OF CASA GRANDE...MARICOPA...SAN TAN VALLEY
- \* TIMING...THROUGH 7 PM MST.
- \* WINDS...SOUTH TO SOUTHWEST WINDS 20 TO 25 MPH WITH GUSTS NEAR 35 MPH.
- \* VISIBILITY...MAY FALL BELOW 1 MILE IN MANY LOCATIONS.
- \* IMPACTS...VISIBILITIES MAY BECOME REDUCED VERY QUICKLY CREATING HAZARDOUS DRIVING CONDITIONS TO TRAVELERS ALONG ROADS AND MAJOR HIGHWAY CORRIDORS SUCH AS INTERSTATE 10 AND INTERSTATE 8.

PRECAUTIONARY/PREPAREDNESS ACTIONS...

BE READY FOR A SUDDEN DROP IN VISIBILITY. IF YOU ENCOUNTER BLOWING DUST OR BLOWING SAND ON THE ROADWAY OR SEE IT APPROACHING...PULL OFF THE ROAD AS FAR AS POSSIBLE AND PUT YOUR VEHICLE IN PARK. TURN THE LIGHTS ALL THE WAY OFF AND KEEP YOUR FOOT OFF THE BRAKE PEDAL.

Figure 1



**(Based on the 2008 EPA Revised 8-Hour Ozone Standard)**

<b>GOOD</b>	<b>MODERATE</b>	<b>UNHEALTHY FOR SENSITIVE GROUPS</b>	<b>UNHEALTHY</b>
<b>0-50</b>	<b>51-100</b>	<b>101-150</b>	<b>151-200</b>

## SUMMARY OF MAXIMUM 8-HR OZONE AQI VALUES FOR SEPTEMBER 2013\*

\*Preliminary data

[illegible]

### 8-hr Ozone exceedance days in SEP:

Total= 1

Date  
9/04

Max ppb/AQI

84/122

79/109

77/104

77/104

Site/s

## Phx Supersite

## North Phoenix

## Central Supersite

## West Phoenix

**Total number of exceedance days since APR 01: 13**

**Total number of exceedance sites since APR 01: 55**

## Ozone Health Watches in SEP:

(Forecast max value 72-75 ppb)

Total= 2

DateMax ppb/AQISite/s

9/12

73/90

## West Chandler

9/13

65/67

## South Phoenix

### Ozone Health Watches since APR 01:

Total= 25

## High Pollution Advisories in SEP:

(Forecast max value 76+ppb)

Total= 0

Date

Max ppb/AQI

Site/s

**High Pollution Advisories since APR 01:** Total= 3

<u>Concentration Recap:</u>	Days in the <b>Good</b> category:	10			
	Days in the <b>Moderate</b> category:	19			
	Days in the <b>Unhealthy for Sensitive Groups</b> category:	1			
	Days in the <b>Unhealthy</b> category:	0			
	Total Forecast Days:	30			
Maximum 8-Hr value:	<u>Date</u>	<u>Hour</u>	<u>Site</u>	<u>ppb/AQI</u>	<u>DOW</u>
	9/03	1100	Phx Supersite	84/122	Tue
Maximum 1-Hr value:	<u>Date</u>	<u>Hour</u>	<u>Site</u>	<u>ppb/AQI</u>	<u>DOW</u>
	9/03	1400	West Phoenix	102/85	Tue
Average daily max 8-Hr concentration (ppb):				61.4	
Deviation from the 1996-2012 average (ppb):				<b>-0.4</b>	

<b><u>SEP Climatology:</u></b> (Period 1996-2007 using 1997 85ppb standard & 2008- 2012 using 76ppb standard)	Average number of 8-Hr exceedance days:	0.5
	Maximum number of 8-Hr exceedance days:	3 in 2010
	Minimum number of 8-Hr exceedance days:	0 in 97, 98, 2000-09, '12
	Average daily max 8-Hr concentration (ppb):	61.8
	Record high max 8-Hr concentration (ppb):	91 on the 4th, 1997
	Record low max 8-Hr concentration (ppb):	36 on the 14th, 2009

<b><u>Forecast Verification:</u></b>	# of days maximum concentrations were over-forecast:	12
	# of days maximum concentrations were under-forecast:	14
	# of days maximum concentrations were correctly forecast:	4
	Sep average forecast accuracy (ppb):	+/-5.5
	Sep average forecast bias (ppb):	+0.4

**Narrative:** Local ozone levels in the Phoenix metro area during September 2013 were very close to the climatological norm for the month with the average maximum daily concentration deviating <1 part per billion (ppb) from the 17-year average. However, the maximum concentration of 84 ppb that occurred on the 3rd was anomalously high for September; the last date that this level was reached was on September 27 1999. The total number of exceedances of the standard that occurred on the 3rd (four) was also unusual for the month, but was aided by an easterly wind regime that kept the Valley ozone plume fairly stationary overhead under mostly sunny skies and hot (109 degrees F) weather conditions. This is a situation that occurs much more frequently during July and August than during September. –Reith